

## Ordering Information

Cat. No	Description
SI-BG01	Disruptor Beads 0.1mm
SI-BG05	Disruptor Beads 0.5mm
SI-D236	Disruptor Genie, 120V, 60Hz 0.65 amps, 1.5ml
SI-D246	Disruptor Genie, 230V, 50Hz 0.5 amps, 1.5ml - No Plug
SI-D256	Disruptor Genie, 230V, 50Hz 0.5 amps, 1.5ml - European Plug
SI-D266	Disruptor Genie, 230V, 50Hz 0.5 amps, 1.5ml - British Plug
SI-D276	Disruptor Genie, 230V, 50Hz 0.5 amps, 1.5ml - Swiss Plug
SI-D296	Disruptor Genie, 230V, 50Hz 0.5 amps, 1.5ml - Australian Plug
SI-D286	Disruptor Genie, 100V, 50/60Hz 1.0 amps, 1.5ml
SI-D237	Disruptor Genie, 120V, 60Hz 0.65 amps, 2.0ml
SI-D247	Disruptor Genie, 230V, 50Hz 0.5 amps, 2.0ml - No Plug
SI-D257	Disruptor Genie, 230V, 50Hz 0.5 amps, 2.0ml - European Plug
SI-D267	Disruptor Genie, 230V, 50Hz 0.5 amps, 2.0ml - British Plug
SI-D277	Disruptor Genie, 230V, 50Hz 0.5 amps, 2.0ml - Swiss Plug
SI-D297	Disruptor Genie, 230V, 50Hz 0.5 amps, 2.0ml - Australian Plug
SI-D287	Disruptor Genie, 100V, 50/60Hz 1.0 amps, 2.0ml
SI-0236	Vortex-Genie 2 (Model G560), 120V, 60Hz 0.65 amps
SI-0246	Vortex-Genie 2 (Model G560E), 230V, 50Hz 0.5 amps - No Plug
SI-0256	Vortex-Genie 2 (Model G560E), 230V, 50Hz 0.5 amps - European Plug
SI-0266	Vortex-Genie 2 (Model G560E), 230V, 50Hz 0.5 amps - British Plug
SI-0276	Vortex-Genie 2 (Model G560E), 230V, 50Hz 0.5 amps - Swiss Plug
SI-0297	Vortex-Genie 2 (Model G560E), 230V, 50Hz 0.5 amps - Australian Plug
SI-0286	Vortex-Genie 2, 100V, 50/60Hz 1.0 amps
SI-T236	Vortex-Genie 2T, 120V, 60Hz 0.65 amps
SI-T246	Vortex-Genie 2T, 230V, 50Hz 0.5 amps - No Plug
SI-T256	Vortex-Genie 2T, 230V, 50Hz 0.5 amps - European Plug
SI-T266	Vortex-Genie 2T, 230V, 50Hz 0.5 amps - British Plug
SI-T276	Vortex-Genie 2T, 230V, 50Hz 0.5 amps - Swiss Plug
SI-T296	Vortex-Genie 2T, 230V, 50Hz 0.5 amps - Australian Plug
SI-T286	Vortex-Genie 2T, 100V, 50/60Hz 1.0 amps
SI-A236	Digital Vortex-Genie 2, 120V, 60Hz 0.65 amps
SI-A246	Digital Vortex-Genie 2, 230V, 50Hz 0.5 amps - No Plug
SI-A256	Digital Vortex-Genie 2, 230V, 50Hz 0.5 amps - European Plug
SI-A266	Digital Vortex-Genie 2, 230V, 50Hz 0.5 amps - British Plug
SI-A276	Digital Vortex-Genie 2, 230V, 50Hz 0.5 amps - Swiss Plug
SI-A296	Digital Vortex-Genie 2, 230V, 50Hz 0.5 amps - Australian Plug
SI-A286	Digital Vortex-Genie 2, 100V, 50/60Hz 1.0 amps
SI-0563	TurboMix Attachment, 1.5ml Tubes
SI-0562	TurboMix Attachment, 2.0ml Tubes

# DISRUPTOR BEADS™

## CELL DISRUPTION MEDIA REFERENCE GUIDE

Catalog No. SI-BG01 (0.1mm) & SI-BG05 (0.5mm)



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# Scientific Industries Disruptor Beads™

## SAMPLE APPLICATION METHODS

### OVERVIEW

Spherical lead free soda lime glass beads are commonly used for mechanical disruption of many yeast, bacterial and soil samples. Glass beads of a pre-determined size and volume are placed in a 1.5ml or 2.0ml microtube along with a pre-determined sample amount. The closed tube is then shaken vigorously at high speed, causing collisions between the glass beads and sample material. Scientific Industries' Disruptor Genie® and TurboMix™ attachment for the Vortex-Genie® 2 family of mixers are excellent choices for this process as they both simultaneously agitate and vortex at high speed, dramatically increasing cell or sample disruption. Each can hold up to twelve 1.5 ml or 2.0 ml microtubes at once. The disrupted cells may be removed after shaking for downstream processing.

Scientific Industries' Disruptor Beads are available in two sizes:

0.1 mm diameter beads (*Catalog No. SI-BG01*)— For use with Bacteria

0.5 mm diameter beads (*Catalog No. SI-BG05*)— For use with Yeast/Fungi

### CARE AND CLEANING

Pre-preparation steps for Scientific Industries' Disruptor Beads are generally unnecessary. If desired, they may be soaked in a 1:8 dilution of household bleach for 20 minutes, rinsed with copious amounts of distilled or RO water, and baked at 50 to 65° C for a minimum of 2 hours, or until completely dry. If the glass beads do not pour freely, repeat the cleaning and drying process. Disruptor Beads may also be autoclaved after proper disinfecting or cleaning.

The Disruptor Beads may be reused, if desired, after proper disinfecting or cleaning and autoclaving. Subsequent uses and excessive handling of the beads may result in the creation of fines, which could adversely affect cell disruption efficiency. As such, it is not recommended to frequently reuse Disruptor Beads.

Disruptor Beads may be stored at room temperature or frozen in an airtight container prior to use. In addition, the Disruptor Genie and TurboMix attachment for the Vortex-Genie 2 and Vortex-Genie 2T may be used in cold rooms.

**NOTE: DETAILED DIRECTIONS FOR USE WILL DIFFER DEPENDING ON THE INDIVIDUAL PROTOCOL USED OR THE OUTCOME DESIRED. THE SAMPLE METHODS BELOW ARE EXAMPLES ONLY.**

#### **Bacteria Disruption:**

Disruptor Beads, 0.1 mm diameter, are recommended for disruption of bacterial samples. A typical sample ratio would be 50% Disruptor Beads to 50% bacterial suspension by volume. This ratio may be adjusted as necessary. Allow head space (~20%) within the microtube to facilitate disruption action. It is recommended that beads and bacterial suspension be chilled prior to disrupting in order to offset any temperature rise within the microtube. Disruption at room temperature using chilled materials for 3 to 5 minutes at highest speed should be sufficient to recover 85% of the bacterial RNA. Disruption can be performed in a cold room as well. Samples should not be run for longer than 10 minutes consecutively to avoid any temperature rise.

#### **Yeast/Fungi Disruption:**

Disruptor Beads, 0.5 mm diameter, are recommended for disruption of yeast or fungi samples. A typical sample ratio would be 50% Disruptor Beads to 50% of yeast or fungus suspension by volume. This ratio may be adjusted as necessary. Allow head space (~20%) within the microtube to facilitate disruption action. It is recommended that beads and yeast or fungus suspension be chilled prior to disrupting in order to offset any temperature rise within the microtube. Yeast cells and fungi are generally more difficult to shear than bacterial cells, so increased disruption times may be necessary. Disruption in a cold room with chilled materials for 5 to 7 minutes at highest speed should be sufficient to disrupt the cell sample. Samples should not be run for longer than 10 minutes consecutively to avoid any temperature rise.

#### **Soil Sample Disruption:**

Either size of Disruptor Beads can be used for soil samples. A typical sample ratio would be 50% Disruptor Beads to 50% soil sample suspension by volume. Allow head space (~20%) within the microtube to facilitate disruption action. Samples should not be run for longer than 10 minutes consecutively to avoid any temperature rise.